AYK REGION
STOCK STATUS REPORT #2

STATUS OF QUINHAGAK FISHERY
1967

(From AYK Area 1967 Annual Management Report)

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INTRODUCTION AND DESCRIPTION OF THE FISHERY

Commercial utilization of salmon in this area has remained limited and sporadic for several years as a result of problems associated with the processing and transportation of the catch. This report includes a brief description and review of the fishery including a discussion on the commercial potential for each species of salmon. Appendix Table 10 shows commercial catches made since 1960.

The Quinhagak salmon Fishery, sub-district 335-40, of the Kuskokwim district harvests primarily those fish bound for the Arolik and Kanektok river systems. It is probable that some Kuskokwim River salmon are also taken. For the past three years, the fishery has been conducted near the village of Quinhagak in Kuskokwim Bay between markers located about one mile East of the mouth of the Kanektok River and at the West bank of the Arolik River. The commercial fishing area extends three miles offshore between these markers. This is an area of extensive mud flats which are covered with water at high tide. Commercial fishing is conducted by drifting during the incoming tide within a mile of shore. Access to the Kanektok River is restricted during low tide. There is about 4 to 6 feet of water at the River entrance at high tide in the rather narrow and winding channel.

In the past, there has been some commercial fishing inside the mouth of the Kanektok River, but this yielded a much poorer quality of salmon which had little market value except when canned. At the present time, there is still a relatively important subsistence fishery being carried on in the Kanektok River by the residents of Quinhagak.

This fishery is later than the Kuskokwim River fishery as the salmon runs apparently peak about 7 - 14 days later than the corresponding species in the Kuskokwim. The Quinhagak fishermen can and do fish the Kuskokwim River in June, then transfer to the Quinhagak fishery during its peak in early July.

REGULATIONS

The Quinhagak salmon fishery is managed so as to encourage the development of a commercial fishery on the salmon resource. The open commercial fishing periods are set so as not to conflict with the Kuskokwim River king salmon fishery, that is, they fall on different days so that a processor could utilize both runs of fish without getting "slugged" with fish on any one day. When, because of lack of transportation, or weather, the fishermen could not fish, the open periods are adjusted to allow maximum utilization of the salmon runs. Normally commercial fishing is allowed two days a week during the king salmon run and then is increased to four or more days a week in early July when chum and red salmon appear in harvestable numbers. The gill nets are limited to 50 fathoms in length, are shallow in depth, and are of a mesh size of about 5½ inches.

PROBLEMS AND POTENTIAL

The greatest problem associated with the fishery is getting the salmon catch to processing facilities. Generally, this fishery is dependent on the transportation of the salmon to facilities at Bethel, located 101 miles by water or 72 miles by air.

Since 1960, several different processing and transportation methods have been attempted. In 1960 a small hand pack cannery was established at Quinhagak, but was unsuccessful due to transportation problems. In 1961 a floating freezer ship processed salmon a few miles offshore, but its operation was hampered by inclement weather and problems involving the tendering of the catch. During recent years, most of the catch has been flown fresh

into Bethel. Weather is again the prime delaying factor as when the wind is calm, often it is too foggy for the use of aircraft.

There is a landing strip 1,960 feet in length which is suitable for light twin engine aircraft when there is not a strong cross wind. For float aircraft there is about 2,000 feet of river in front of Quinhagak at low tide, depending again on cross winds. At high tide the Bay can be used if it is not too rough.

There are no suitable buildings available for processing in Quinhagak at the present time. The Kanektok River would be a good source of clean, fresh water for a processor as long as it was taken from above the village. There is a fair to good labor force available in the village. This force consists mainly of women as the men fish commercially in the Kuskokwim River or Bristol Bay areas. Many of the fishermen would prefer to fish "at home", but have not been able to do so due to the lack of a good market for their fish.

The following are estimates of potential for each salmon species in respect to commercial utilization.

The Kanektok - Arolik king salmon are of the same quality as the lower Kuskokwim River salmon, that is, they average only fair in quality. The sustained annual harvest appears to be approximately 3,000 fish. There is only a small subsistence fishery on kings so that the majority of these are available for the commercial fishery.

There is a fair run of coho salmon which have not been greatly harvested in the past so that data on harvestable numbers is unknown. There may be 6,000 to 10,000 available.

The magnitudes of chum and pink salmon runs are greatly unknown, although they appear to be relatively stable. A difficulty in using these fish for

a fresh-frozen fish market, which requires an ocean bright fish, is that many are "water-marked" in the area where commercial fishing can take place. One advantage of these fish is that because of their advanced maturity, their eggs are especially valuable for the Japanese market. There are probably from 10,000 to 25,000 chum salmon available for commercial harvest in this area.

Both the Kanektok and Arolik River red salmon runs are composed of a single system -- single race stock and, therefore, tend to fluctuate greatly in magnitudes from year to year. With a sporadic run of this sort, the allowable commercial catch will vary from a few incidentally captured fish to a high of 50,000 to 70,000. Red salmon are an important subsistence fish to the village of Quinhagak and allowances must be made for this in regulation of the commercial fishery. Based on past catch and escapement data presented in Appendix Table 11, it is possible to make general predictions regarding the return in 1968: an above - average run is indicated which should be similar in magnitude to the 1964 run (95-100,000).

With the advent of the Japanese demand for salmon, there is a good opportunity for a small processing facility to be set up at Quinhagak. The best use of these fish in regards to the local economy would be the semi-dressed, hard salt product plus processing the roe. This method was tried in 1967 in Bethel with whole undressed fish being flown from Quinhagak to Bethel.

APPENDIX TABLE 10

RED SALMON COMMERCIAL CATCHES, ESTIMATED ESCAPEMENTS AND TOTAL RUN FOR QUINHAGAK (SUBDISTRICT 335-40 OF KUSKOKWIM DISTRICT), 1959-1967 1/

Year	Commercial Catch	Aerial Surveys	Tower Count	Best Estimate of Total Run
1959	0	102,500 2/		105,000
1960	5,649	77,000-100,000 2/		85-100,000
1961 4/	2,308	3,000 3/	22,000	25-30,000
1962	10,313		15,500	25-30,000
1963	0			
1964	13,422	80,000 2/		95-100,000
1965	1,886	6,500 2/		10-20,000
1966	1,030	12,200 2/		15-20,000
1967	652	3,840 3/		5-10,000

1/ Includes escapement data for Kanektok River system only

2/ Good survey conditions

3/ Poor - fair survey conditions

4/ Aerial surveys made of three unnamed lakes in upper drainage only

APPENDIX TABLE 11

QUINHAGAK (SUBDISTRICT 335-40 OF KUSKOKWIM DISTRICT)
COMMERCIAL SALMON CATCHES, 1960-67

Year	Kings	Reds	Cohos	Pinks	Chums
1960	0	5,649	3,000	0	0
1961	4,328	2,308	46	90	18,864
1962	5,526	10,313	0	4,340	45,707
1963	6,555	0	0	0	0
1964	4,081	13,422	379	939	707
1965	2,976	1,886	0	0	4,242
1966	278	1,030	0	268	2,610
1967	0	652	1,926	0	8,087